Amendments to the Specification

Please replace paragraph [0031] on page 10 with the following amended paragraph:

[0031] At block 112, the publishing tool 18 creates (at block 112) IFD0 for a TIFF file to include information on the received halftone of the entire page i and its location in the TIFF file. If there are images on the page (at block 114), then the publishing tool 18 sets (at block 118) the private tag 60 in IFD0 to include an offset 74 to IFD1 for the first image on page i. If there are no images on page i, then the private tag in IFD0 is set (at block 116) to zero.

Please replace paragraph [0032] on pages 10-11 with the following amended paragraph:

[0032] If there are images in page i, then from block 118, the publishing tool 18 proceeds to perform the loop beginning at block 120 for each image j in page i, where j extends from 0 to m. The publishing tool 18 accesses image j on page i and then descreens (at block 122) the halftone of the image j to generate a grey scale or intermediate grey scale representation of the image in a manner known in the art. For instance, the publishing tool 18 may utilize the descreening process described in the patent application "Method and Apparatus for Repurposing Binary Images", having U.S. Application Serial No. 09/110,900, incorporated by reference above, which discloses a technique for descreening screened halftone images. Such descreening techniques may involve the use of a boxcar filter or Gaussian blur. Further details of the segmentation and descreening processor for halftone images are also described in the publication entitled "Descreening Printer-Ready Images", by A. R. Rao, Frederick Mintzer, Gerhard Thompson, IS&Ts NIP 14: 1998 International Conference on Digital Printing Technologies, pgs. 285-289 (Copyright 1998), which publication is incorporated herein by reference in its entirety. The output of the descreening process is an intermediate grey scale image that does not contain any halftone screen. After generating the descreened gray scale representation of image section j, the publishing tool 18 adds (at block 124) information on image j in IFDj, including the location of the gray scale bit map for image j in the TIFF file and orientation information on where to orient image j within page i. The mixed format TIFF file providing information to reproduce page i may then be stored (at block 134) in storage 8. If (at block 126) there is another image on page i, then the publishing tool 18 adds (at block 130) offset information pointing to IFD j+1 for the next image (j+1) and then proceeds back (at block 132) to block 120 to perform another

iteration of the loop for the next image. If there are no further images, then the publishing tool 18 sets (at block 128) the offset information to zero and proceeds (at block 136) to process the next (i +1) to generate the mixed format TIFF file for the next page of the document.

Please replace paragraph [0036] on pages 13-14 with the following amended paragraph:

[0036] If the private tag points to a chain of one or more IFDs beginning at IFD1, then the publishing tool 18 begins a loop (at block 218, in FIG. 4b) for each image j associated with the page. As part of this loop, at block 218, the publishing tool 18 accesses (at block [[200]] 220) the gray scale representation of image j using IFD j and halftones the gray scale bit map for image j using any halftone technique known in the art, such as halftoning with a dithering mask. The gray scale bit map would be halftoned to optimize the output for the printer 12 selected to print the document represented in the TIFF files 20a, b, c. The publishing tool 18 then merges (at block 222) the halftone bit map generated for image j into the halftone for page i, described in IFD 0. The publishing tool 18 would use the orientation information maintained in the IFDi, j for image j to merge the halftone bit map of the image j into the correct location in page i. After merging the halftone for image j into the halftone for the page, the publishing tool 18 determines (at block 224) whether the offset for IFD j indicates a further image (j + 1) for the current page. If so, the publishing tool 18 proceeds (at block 226) to perform another iteration of the loop beginning at block 218 to halftone the next image (j + 1) and merge such halftone into the current halftone for page. Thus, the halftone for the page may have multiple levels of halftone bit maps merged therein. If (at block 224) there are no further images for the page to merge into the combined halftone for the page, then the publishing tool 18 sends (at block 228) the generated combined halftone bit map for the page, which may include multiple levels of merged halftones, to the printer 12 for printing. The publishing tool 18 then proceeds (at block 232) back to block 206 to process any further TIFF files including additional pages for the selected document.

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